

CLAIMS

What is claimed is:

1. A hydraulic pressure system for a rotor hub assembly comprising:
a support structure defined along an axis;
a hydraulic pump comprising a pump body and a pump shaft;
said pump body mounted within said support structure for rotation relative said
pump shaft.
2. The hydraulic pressure system as recited in claim 1, wherein said support
structure comprises a flanged cylinder.
3. The hydraulic pressure system as recited in claim 1, wherein said support
structure comprises a flanged cylinder mounted to a rotor hub assembly.
4. The hydraulic pressure system as recited in claim 1, wherein said support
structure comprises a flanged cylinder mounted within a main rotor shaft.
5. The hydraulic pressure system as recited in claim 1, wherein said support
structure comprises a cylinder having a flange extending radially therefrom, said flange
mounted to a rotor hub and said cylinder mounted within a main rotor shaft, a cylinder outer
diameter of said cylinder spaced away from an inner diameter of said main rotor shaft.
6. The hydraulic pressure system as recited in claim 1, further comprising a gear
system mounted between said pump shaft and a rotationally fixed standpipe.

7. A rotor hub assembly for a rotary wing aircraft comprising:
 - a standpipe mounted along an axis of rotation;
 - a main rotor shaft mounted concentric with said standpipe and along said axis of rotation, said main rotor shaft rotationally mounted relative said standpipe; and
 - a hydraulic pump mounted along said axis of rotation, said hydraulic pump comprising a pump body mounted for rotation relative a pump shaft mounted to said standpipe.
8. The rotor hub assembly as recited in claim 7, wherein said standpipe is mounted for rotation opposite said main rotor shaft.
9. The rotor hub assembly as recited in claim 7, further comprising a flanged cylinder mounted within said main rotor shaft, said pump body mounted to said flanged cylinder.
10. The rotor hub assembly as recited in claim 7, further comprising a flanged cylinder mounted to a rotor hub assembly, said pump body mounted to said flanged cylinder.
11. The rotor hub assembly as recited in claim 7, further comprising a cylinder having a flange extending radially therefrom, said flange mounted to a rotor hub and said cylinder mounted within said main rotor shaft, a cylinder outer diameter of said cylinder spaced away from an inner diameter of said main rotor shaft.
12. The rotor hub assembly as recited in claim 11, further comprising a conduit passing between said cylinder outer diameter and said inner diameter of said main rotor shaft.
13. The rotor hub assembly as recited in claim 12, wherein said conduit comprises an electrical conduit.

14. The rotor hub assembly as recited in claim 12, wherein said conduit comprises a fiber optic cable.

15. The rotor hub assembly as recited in claim 7, further comprising a cylinder having a flange extending radially therefrom, said flange mounted to a segment of said main rotor shaft and said cylinder mounted within said main rotor shaft, a cylinder outer diameter of said cylinder spaced away from an inner diameter of said main rotor shaft.

16. The rotor hub assembly as recited in claim 15, further comprising a conduit passing between said cylinder outer diameter and said inner diameter of said main rotor shaft.

17. The rotor hub assembly as recited in claim 16, wherein said conduit comprises an electrical conduit.

18. The rotor hub assembly as recited in claim 16, wherein said conduit comprises a fiber optic cable.

19. The rotor hub assembly as recited in claim 7, further comprising a gear system mounted between said pump shaft and said standpipe.

20. The rotor hub assembly as recited in claim 7, further comprising a harmonic drive system mounted between said pump shaft and said standpipe.